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AUTHOR Roueche, Suanne D., Ed.

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## **ABSTRACT**

Camelot is a microcomputer-based system for individualizing information in a variety of settings. The information is not prespecified in Camelot and, consequently, can take many forms including instruction, counseling, prescription, and task assignment. The basis for individualizing the information is also, not predeclared; therefore, users can choose their own criteria for individualizing the information they wish to disseminate. In educational settings, Camelot can create a personal teaching-learning environment for each student, provide individualized feedback, and guide students at optimal speed through the course or program. Once the course designer has given Camelot descriptions of the course assessment procedures, the student characteristics to be used as the basis for individualization, and the content for feedback to. different types of students, the system automatically assesses students' levels of understanding, analyzes students' responses to objective tests and the results of teacher-marked assignments, monitors students current learning status, and composes and prints individualized feedback letters. Camelot includes: (1) management modules to create, update, and maintain student records; (2) test scoring modules to process various types of tests and inventories; (3) word processing modules to create, edit, and store feedback information; (4) decision rules modules that link database and feedback information; and (5) report-generating modules to print reports about students and tests. (LAE),

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**CAMELOT: AN INDIVIDUALIZED INFORMATION SYSTEM** 

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For further information, contact Kamala Anandam, Director, Computer-Based Instructional Development Research, Miami-Dade Community College, 11011 S.W. 104 Street, Miami, FL 33176.

Suanne D. Roueche, Editor April 27, 1984, VOL. VI, NO. 14

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## CAMELOT: AN INDIVIDUALIZED INFORMATION SYSTEM

Camelot is a microcomputer-based system for individualizing information in a variety of settings--e.g., educational, medical, industrial. The information is not prespecified in Camelot and, consequently, can take the form of instruction, counseling, prescription, task assignment, and so forth. The basis for individualizing the information is also not predeclared in Camelot; therefore, users can choose their own criteria for individualizing the information they wish to disseminate. Camelot is a context- and content-free system which provides tremendous flexibility for its users to design and implement their own goals in personalized communication. To illustrate:

One teacher handling a class of 30 students grades her tests, distributes them in class, and explains each question from beginning to end, even when there are students who missed none, one, two, or all of the questions. That teacher remarks: "It is such a waste of my time and my students' time." To remedy that situation, Camelot was programmed to process the tests and generate individualized printed feedback (usually called Camelot letters). The teacher now needs only to distribute the letters in class. The students, of course, are happy to receive such detailed and personalized feedback.

One teacher reads students' essays, marks the errors, and when time permits, writes an explanation as to how to correct them. That teacher's comment is: "What bothers me is having to correct the same errors over and over and to write the same explanations time and time again." In response to this concern, forms were designed which allow an essay reader to markstudents' errors in writing. These forms, when processed by Camelot, produced individualized feedback letters consisting of detailed explanations for the specific errors marked in each student's essay. Of course, reading the student essay still remains the teacher's responsibility, but writing the selected feedback for the various students falls into Camelot's domain.

In educational settings, the purposes of this individualized communication are to:

- create a personal teaching-learning environment for each and every student, with close rapport between students and teacher;
- provide individualized instructional feedback to complement and reinforce adequate understanding or to correct and redirect erroneous understanding; and
- guide students at optimal speed through the course or program.

The basis for individualizing communication to the student is determined by the course designer. Individualization can reflect:

- the students' level of understanding of course content--whether the content is presented in lecture, film, group discussion, reading assignment, home study, or other instructional forms; and
- other student characteristics deemed by the course designer to be of significance in that particular course Ifor example, instructor feedback to students could be tailored to accommodate the student's reading level, or level of mathematical ability, or age, or distance from campus, or previous courses taken, or mother tongue, or whatever].

The content of the individualized communication is entirely up to the course designer; therefore, it is possible for faculty members to use Camelot for any course or program in any educational setting. Camelot stimulates the designers to program their best thoughts in reaching out to a diverse student population, so instructors have opportunities to demonstrate their unique teaching skills.



Once the course designer has given Camelot the descriptions of the course assessment procedures, the descriptions of the student characteristics to be used as the basis for individualization, and the content for feedback to different types of students, the system assists faculty members during the course by automatically:

assessing the students' levels of understanding by using different types of assessment tools;

analyzing students' responses to objective tests and the results of teacher-marked assignments from different perspectives (cognitive/affective domains, single response/pattern of responses, current/cumulative responses, student needs/teacher.expectations, etc.);.

examining the students' current learning status against criteria established by the course designer; and

composing and printing individualized feedback letters to each and every student.

Camelot helps teachers evaluate the teaching-learning environment. It provides reports that:

describe students' performance and demographic background characteristics;

summarize student performance across designated groups;

3. indicate the kinds of feedback students have been given; and

provide item and test statistics on the performance of norm-referenced and criterion-referenced tests.

The needs of the faculty user (designer) are served by four major subsystems in Camelot:

Equinivere holds the keys to the system, checking the user password, limiting right of access according to the faculty user's wishes, displaying messages, shutting the system down safely, and securely protecting information.

Arthur helps faculty authors to prepare their courses. A friendly interactive dialogue helps the course author set up a student record file, a test file that contains instructions for scoring tests, a pool of variable feedback statements, and the decision rule's for selecting appropriate feedback for particular students.

Lancelot collects information about the students, scores tests, and follows Arthur's instructions when print-

ing individualized letters to students and reports to the faculty.

Merlyn gives help and advice when asked, so that faculty can acquire knowledge and skill in topics such as the Camelot system itself, the selection of learning strategies, the use of multiple-choice questions, and the design of wariable feedback.

At the heart of the Camelot concept is machine independence--the ability of the Camelot system and its related courseware to be moved easily from one microcomputer system to another.

Camelot was developed at Miami-Dade Community College under the direction of Kamala Anandam on behalf of an international consortium of seventeen educational institutions in the USA, UK, and Canada. It was funded by six of the seventeen institutions and a grant from the Exxon Education Foundation.

Camelot is a very sophisticated tool for individualizing instruction. It includes: (1) databased management modules to create, update, and maintain student records; (2) test-scoring modules to process various types of tests and personality/attitude inventory; (3) word processing modules to create, edit, and store feedback information; (4) decision rules modules that link database and feedback information in order to individualize the information for each student; (5) report-generating modules to print reports about students and tests. It can be especially helipful in educational settings which involve heterogeneous student populations, large student numbers, students learning at a distance, low staff-student ratios--in fact, in any setting in which experience has shown that teaching in the mass, without individualization, is failing to reach instructional goals. Because the use of Camelot necessarily involves teachers and trainers in thinking about course purposes and in designing assessment procedures and feedback letters, the System can be of enormous value in stimulating both faculty and curriculum development.

For further information, contact Kamala Anandam, Director, Computer-Based Instructional Development Research, Miami-Dade Community College, 11011 S.W. 104 Street, Miami, FL 33176.

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